

I B. Tech II Semester Regular Examinations, September- 2021
OBJECT ORIENTED PROGRAMMING THROUGH JAVA
 (Com. to ECE, EIE, ECT)

Time: 3 hours

Max. Marks: 70

Answer any five Questions one Question from Each Unit
All Questions Carry Equal Marks

UNIT-I

1. a) Describe the significant features of JAVA programming. (7M)
 - b) Explain about various loop control statements in JAVA programming. (7M)
- Or
2. a) What objects are in object oriented programming? How they are created from class? Give the syntax. (7M)
 - b) Write a JAVA program to find all palindromic substrings of a string. (7M)

UNIT-II

3. a) Explain the use of the keyword 'super' with an example JAVA program. (7M)
 - b) Give the general form of an Interface and also discuss the implementation details of Interfaces in JAVA programming. (7M)
- Or
4. a) Demonstrate the concepts of Dynamic method dispatch and upcasting in JAVA with necessary examples. (7M)
 - b) Write about abstract classes with an example JAVA program. (7M)

UNIT-III

5. a) Write a JAVA program to create scroll bar component in a Frame. (7M)
 - b) Write a JAVA program to illustrate the importance of Border layout. (7M)
- Or
6. a) Why does an Applet not need a main() method? Explain. (7M)
 - b) Explain the Hierarchy of Java Swing classes. (7M)

UNIT-IV

7. a) What are the various sources of Events? And also give the respective Event listener interfaces. (7M)
 - b) Describe various input and output streams in JAVA with proper examples. (7M)
- Or
8. a) How to read and write binary files in JAVA? Explain with a sample JAVA program. (7M)
 - b) Write a JAVA program to read and write from Random Access File. (7M)

UNIT-V

9. a) With a neat sketch, explain the lifecycle of a Thread in JAVA programming. (7M)
 - b) Write about catch, throw, throws and finally keywords in JAVA. (7M)
- Or
- 10 a) Briefly explain about the different types of collections in JAVA programming (7M)
 - b) Define the following in Java Networking Terminology (7M)
 - i) IP address
 - ii) socket
 - iii) connection oriented and connection less protocol
 - iv) port number and MAC address

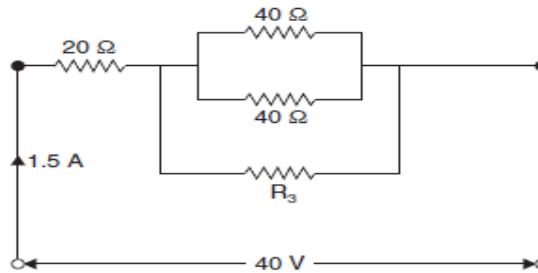
I B. Tech II Semester Regular Examinations, September- 2021
BASIC ELECTRICAL & ELECTRONICS ENGINEERING

(Comm. to CSE-CS&T, CSE-CS, CSE-IOT&CS incl BCT, CSE-CS&BS, CSE-IOT, Cyber Security)
 Time: 3 hours Max. Marks: 70

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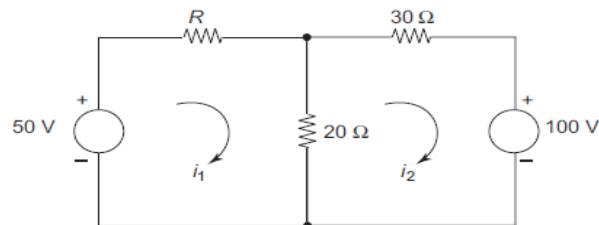
UNIT-I

- 1 a) Explain the following terms: (7M)
 i) Potential Difference ii) Current iii) passive elements iv) Active Elements
 v) Ideal Sources vi) Practical Sources vii) Dependent sources
- b) A resistance of 20 ohms is connected in series with a combination of two resistances arranged in parallel each of value 40 ohms. Determine the resistance R_3 which should be shunted across the parallel combination so that the total current drawn by the circuit is 1.5 A with applied voltage of 40 V. (7M)



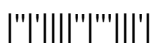
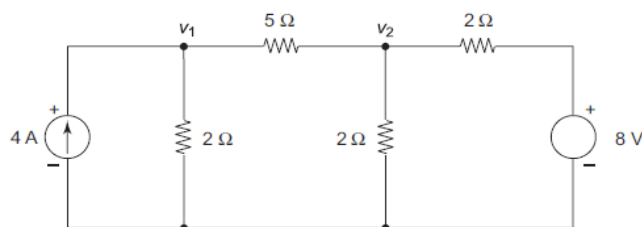
Or

- 2 a) Derive an expression for the equivalent capacitance when the capacitances are connected in series. (7M)
- b) Determine the value of R such that $i_1 = 0.37A$ (7M)



UNIT-II

- 3 a) State and explain Norton's theorem. (7M)
- b) Find the node voltages using Superposition theorem. (7M)



Or

- 4 a) Distinguish between Active Power, Reactive Power and Apparent Power and also draw the Power triangle. (7M)
- b) A coil takes 2.5 amps. When connected across 220-volt 50 Hz mains. The power consumed by the coil is found to be 400 watts. Find the inductance and the power factor of the coil. (7M)

UNIT-III

- 5 a) How are D.C. generators classified? Explain each one of them briefly and also give their applications. (7M)
- b) A six-pole lap wound D.C. generator has 720 conductors, a flux of 40 m Wb per pole is driven at 400 r.p.m. Find the generated e.m.f. (7M)

Or

- 6 a) List and explain the various losses that are considered in a Single-phase transformer. (7M)
- b) The no-load ratio required in a single-phase 50 Hz transformer is 6600/600 V. If the maximum value of flux in the core is to be about 0.08 Wb, find the number of turns in each winding. (7M)

UNIT-IV

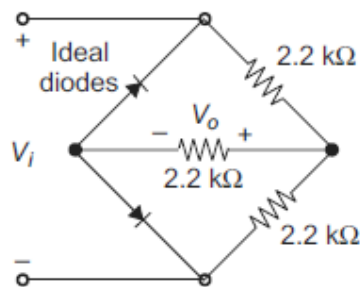
- 7 a) Distinguish in detail between Salient pole type alternator and non-Salient pole alternator. (7M)
- b) Derive an expression for voltage regulation of a three-phase synchronous generator. (7M)

Or

- 8 a) Explain the constructional of squirrel cage rotor type induction motor. (7M)
- b) Draw and explain the Torque – Slip characteristic of a Three phase induction motor. (7M)

UNIT-V

- 9 a) Draw and explain the equivalent circuit of a Diode and its behavior under ideal and practical conditions. (7M)
- b) For the following diode network, the sinusoidal input with $V_m = 170V$, determine V_o (dc) (7M)



Or

- 10 a) Draw and explain the Common collector configuration along with input and output characteristics. (7M)
- b) Explain how an op- amp can be used as a Differentiator and Integrator. (7M)

